Engine Diagnostics Tool 2.0 User Manual

Version 1.8

About Manual

This manual describes the EDT 2.0 application and its ability to monitor ECU.
It provides detailed information concerning the usage of EDT 2.0 application.

This manual contains the following chapters:
Introduction
Installation
Starting EDT 2.0
Main Window
Application Menu
Connect
Measurement
Faulty Manager
Engine Information
View
Help

Revision history

Revision No.	Revision Description	Revision Date
0.00	Document created	16 January 2012
1.00	Document updated	22 February 2012
1.10	Document updated	13 June 2012
1.20	Document updated	14 June 2012
1.30	Document updated	11 October 2012
1.40	Document updated	20 June 2013
1.50	Document updated	28 May 2014
1.60	Document updated	30 July 2014
1.70	Document updated	26.February 2015
1.80	Document updated	28.August 2015

Warning:
Failure to read and understand the information provided in this manual may result in product failure. Please read each chapter in its entirety and be sure you understand the information provided in the chapter and related chapters before attempting any of the procedures or operations given

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Prerequisites
Supported Operating Systems

- Windows XP 32bit SP3 and 64bit
- Windows 7, 32 and 64bit
- Windows 8.1, 32 and 64bit
- Windows 10, 32 and 64bit
- .NET Framework 4.0

Supported Hardware

- Minimum: Intel or AMD Dual-Core-Processor with 2.0 GHz or faster
- Recommended: Intel i3, i5 or i7 processor
- 2 GB RAM memory
- Supported Resolution min.: 1280 x 720
- Free USB 2.0 Port for connecting the USB/CAN interface

Introduction

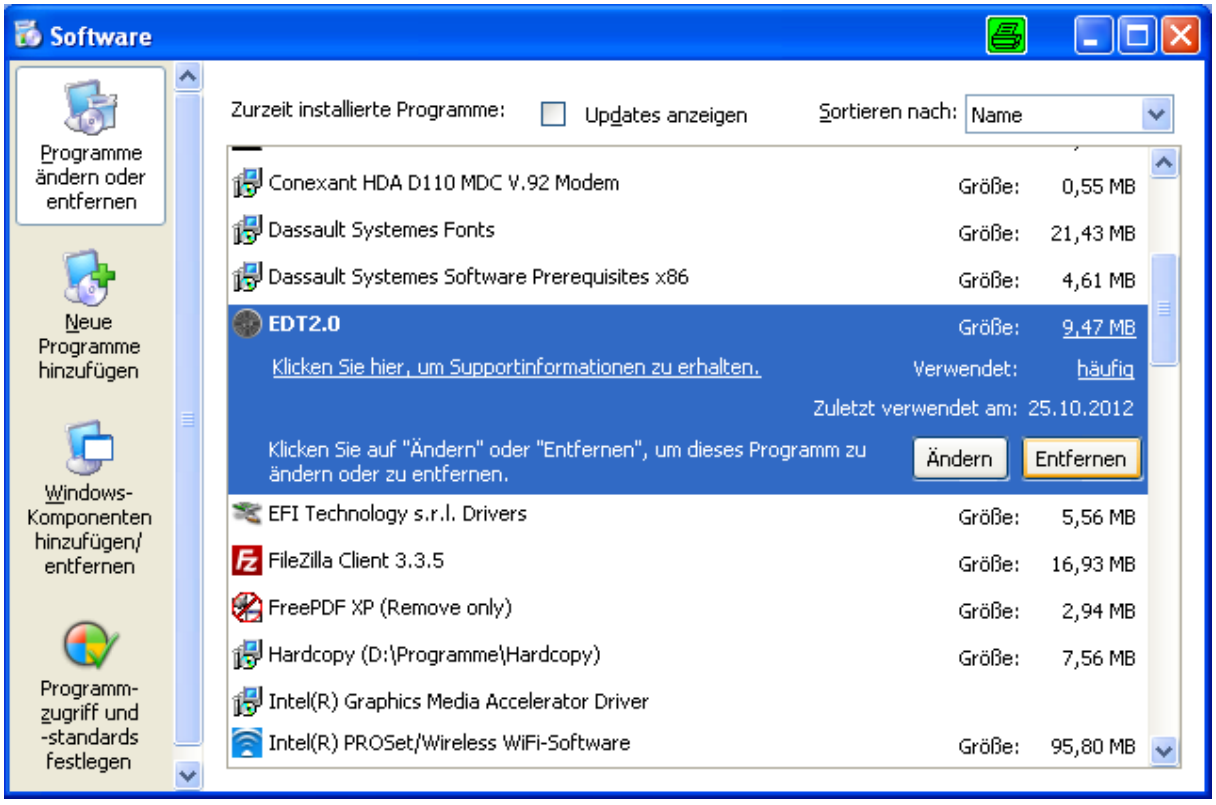
This software is used for diagnosis on “Steyr-Motors” Diesel engines. It supplies data out of the engine control unit (ECU) and allows measurements and malfunction detection.

Installation

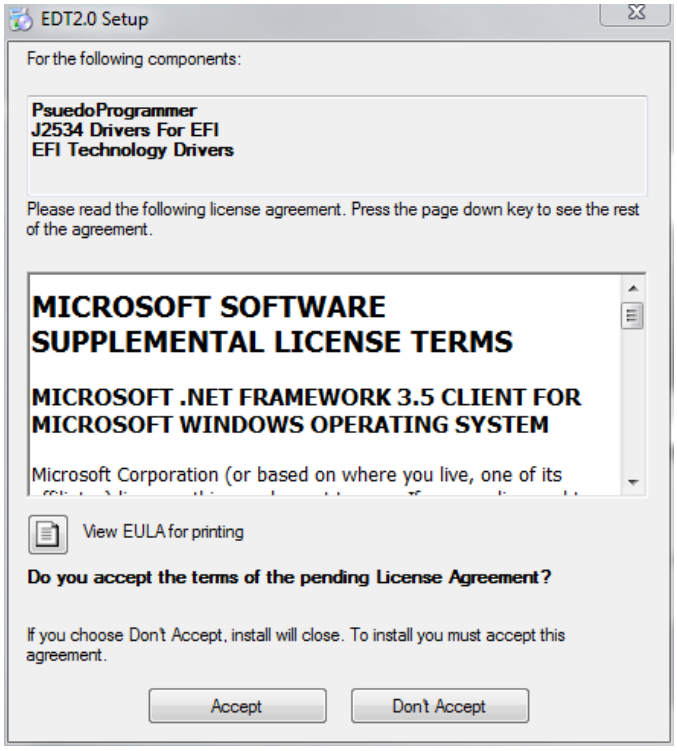
This chapter describes the procedures involved in the installation of EDT 2.0 on a standard workstation running under Microsoft Windows XP and 7.
The software is supplied on http://www.steyr-motors.com/download/tools/smo-edt-diagnostic-tool-list-files/se-series/ and is installed easily from within Microsoft Windows. The installation can be terminated at any point during the installation process.

For workstations running on Microsoft Windows 8, EDT-Version 1.1.62.2 or higher is necessary.

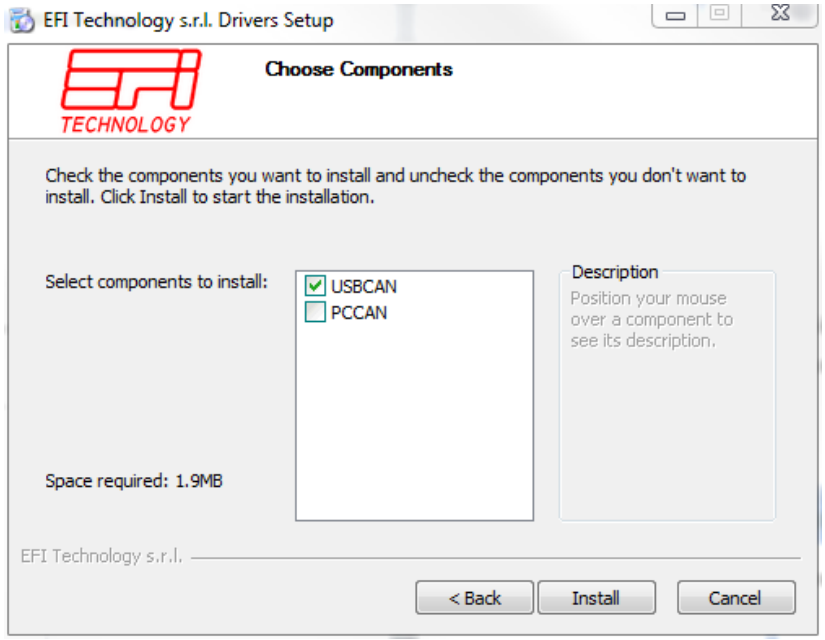
If there is an older version of EDT 2.0 already installed, please uninstall/remove this version first:



Open downloaded zip-file and start installation by using “setup.exe”.

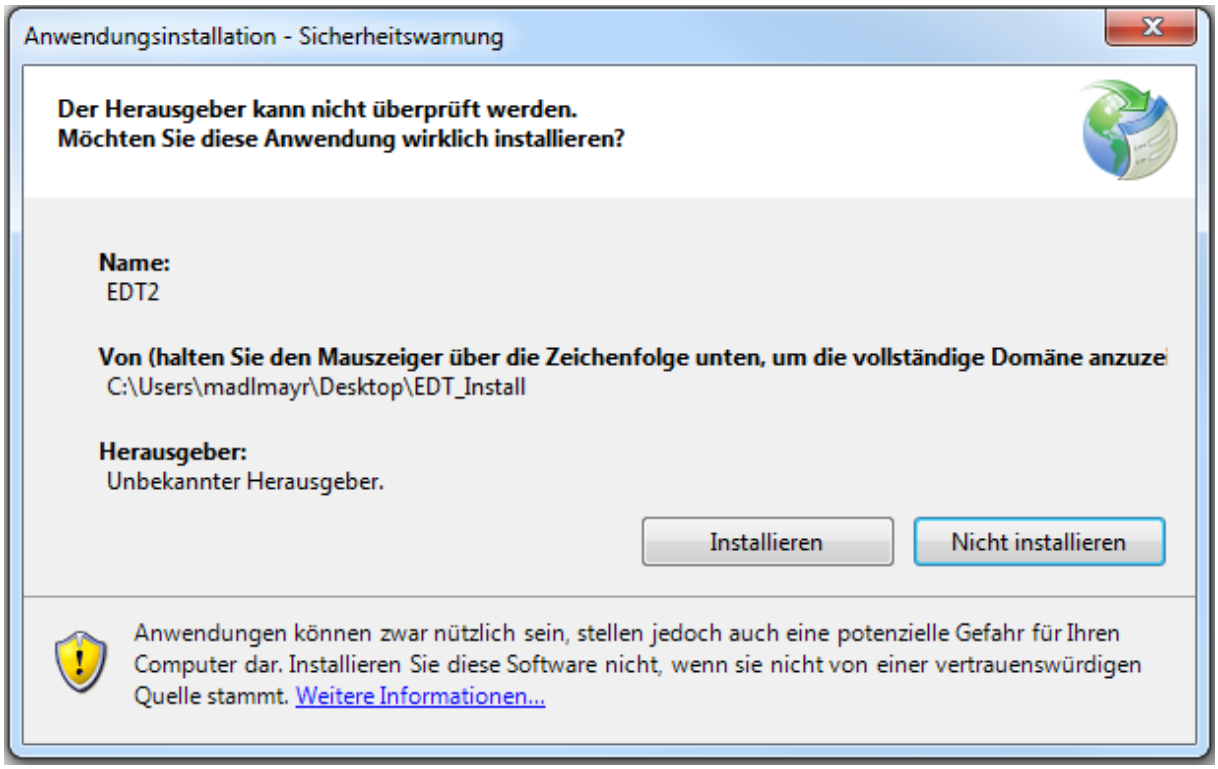

EDT2.0 Setup
For the following components:
PsuedoProgrammer
J2534 Drivers For EFI
EFI Technology Drivers
Please read the following license agreement. Press the page down key to see the rest of the agreement.
MICROSOFT SOFTWARE SUPPLEMENTAL LICENSE TERMS
MICROSOFT .NET FRAMEWORK 3.5 CLIENT FOR MICROSOFT WINDOWS OPERATING SYSTEM
Microsoft Corporation (or based on where you live, one of its
View EULA for printing
Do you accept the terms of the pending License Agreement?
If you choose Don't Accept, install will close. To install you must accept this agreement.
Accept
Don't Accept

Press “Accept” and follow the on-screen instructions.


EFI Technology s.r.l. Drivers Setup
TECHNOLOGY
Choose Components
Check the components you want to install and uncheck the components you don't want to install. Click Install to start the installation.
Select components to install:
USBCAN
PCCAN
Description
Position your mouse over a component to see its description.
Space required: 1.9MB
EFI Technology s.r.l.
< Back
Install
Cancel

Select “USBCAN” and follow the instructions.

Press “Install” and follow the on-screen instructions.


Anwendungsinstallation - Sicherheitswarnung
Der Herausgeber kann nicht überprüft werden.
Möchten Sie diese Anwendung wirklich installieren?
Name:
EDT2
Von (halten Sie den Mauszeiger über die Zeichenfolge unten, um die vollständige Domäne anzuze
C:\Users\madlmayr\Desktop\EDT_Install
Herausgeber:
Unbekannter Herausgeber.
Installieren
Nicht installieren
Anwendungen können zwar nützlich sein, stellen jedoch auch eine potenzielle Gefahr für Ihren Computer dar. Installieren Sie diese Software nicht, wenn sie nicht von einer vertrauenswürdigen Quelle stammt. Weitere Informationen...

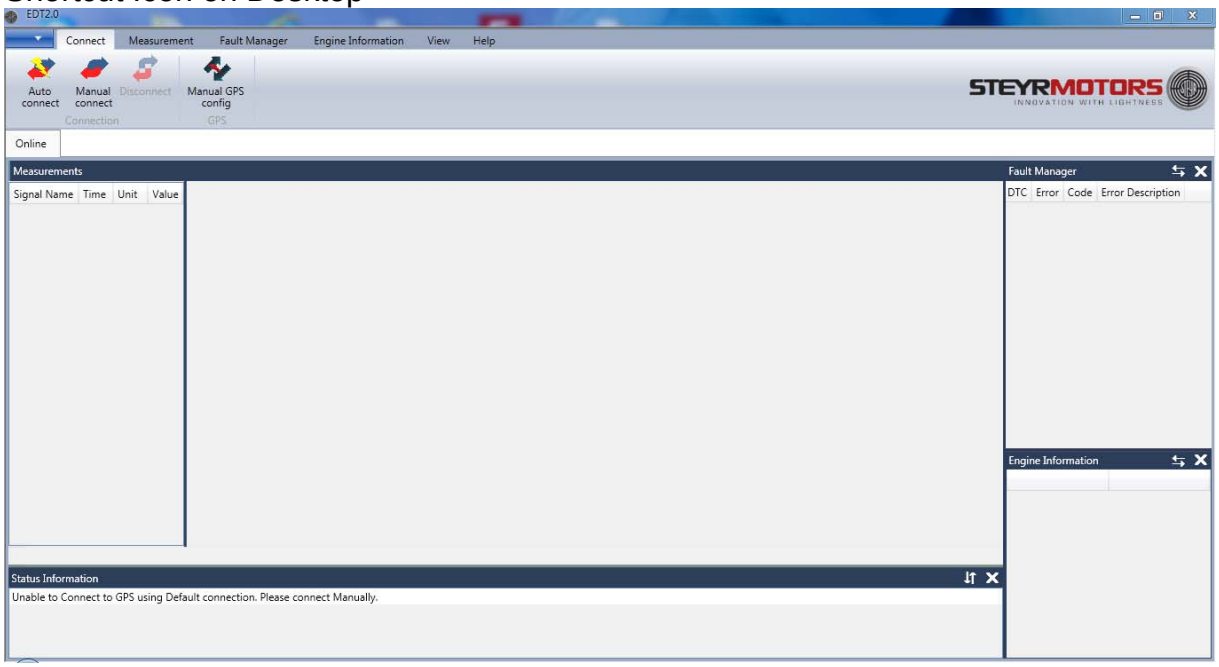
Starting EDT 2.0

To open the EDT go to:

Windows Start → Programs → SMO → EDT2

Or
Desktop → EDT2

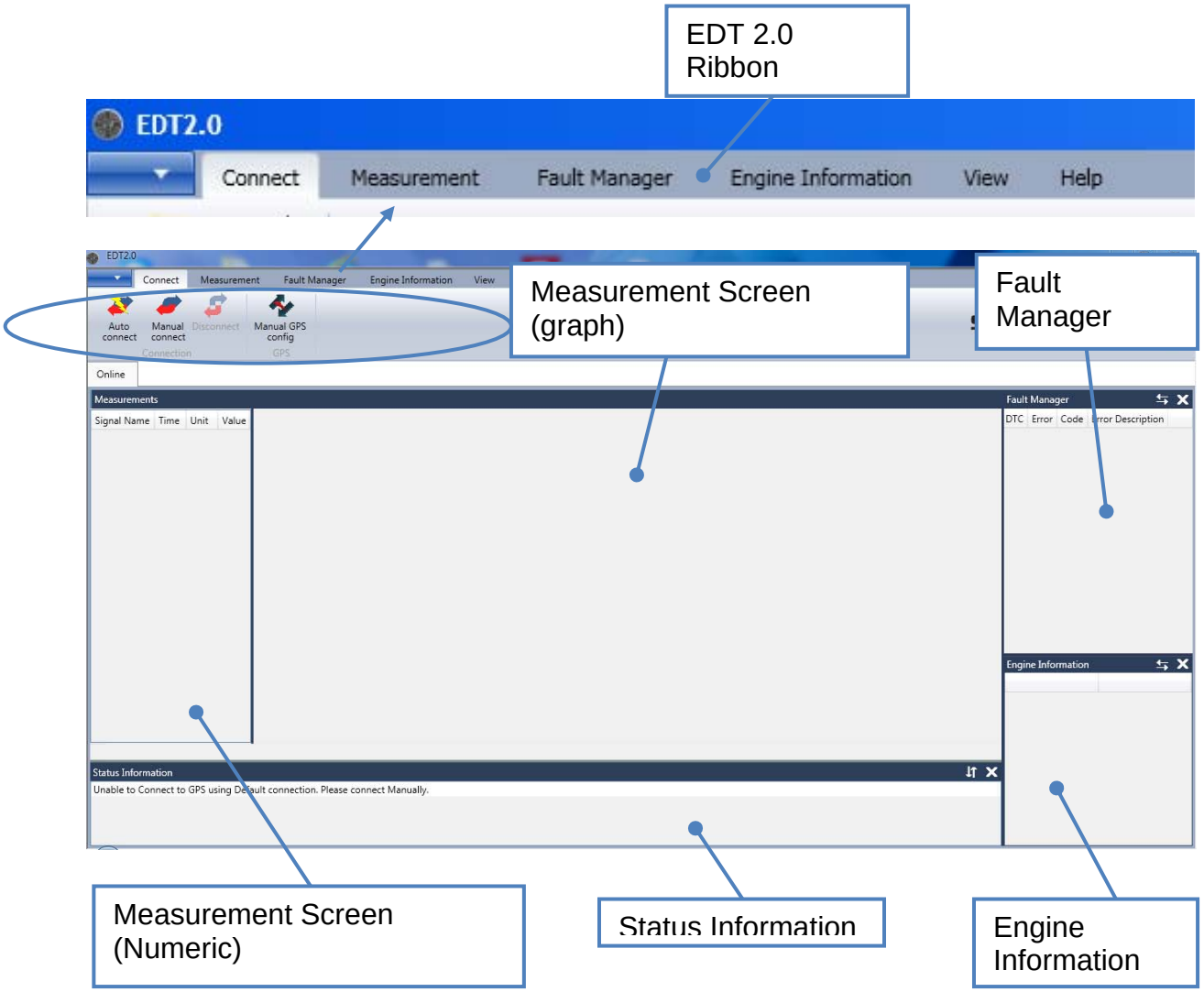
Shortcut Icon on Desktop



EDT 2.0 application window

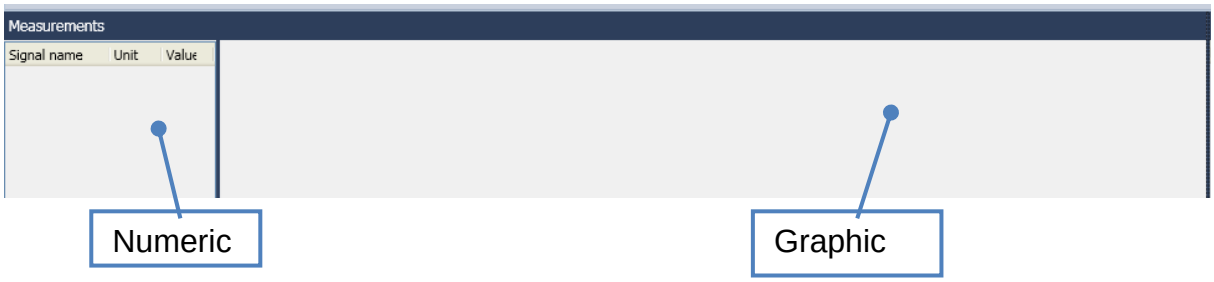
Main Window

The EDT main window contains the following parts:



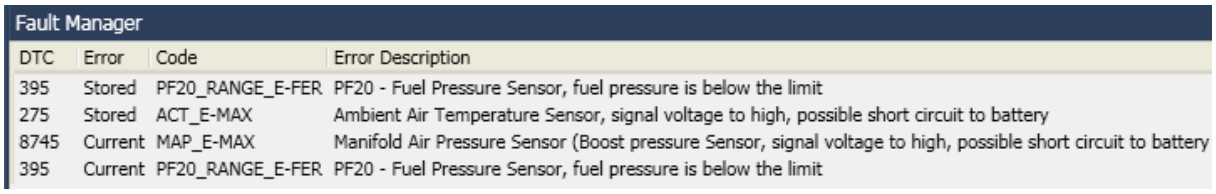
Measurement Screen

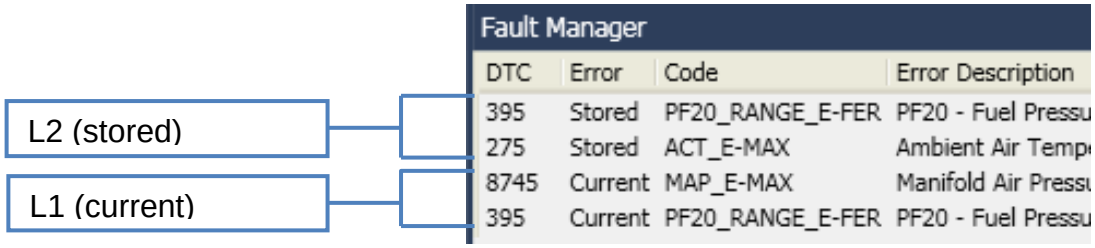
Measurement screen shows Graphical and Numerical values of the selected Signals from ECU



Fault Manager Screen

The Fault Manager Screen displays the current and stored Fault codes (error codes) from the ECU


Fault Manager
DTC Error Code Error Description
395 Stored PF20_RANGE_E-FER PF20 - Fuel Pressure Sensor, fuel pressure is below the limit
275 Stored ACT_E-MAX Ambient Air Temperature Sensor, signal voltage to high, possible short circuit to battery
8745 Current MAP_E-MAX Manifold Air Pressure Sensor (Boost pressure Sensor, signal voltage to high, possible short circuit to battery
395 Current PF20_RANGE_E-FER PF20 - Fuel Pressure Sensor, fuel pressure is below the limit


Fault Manager
DTC Error Code Error Description
395 Stored PF20_RANGE_E-FER PF20 - Fuel Pressu
275 Stored ACT_E-MAX Ambient Air Temp
8745 Current MAP_E-MAX Manifold Air Pressu
395 Current PF20_RANGE_E-FER PF20 - Fuel Pressu
L2 (stored)
L1 (current)

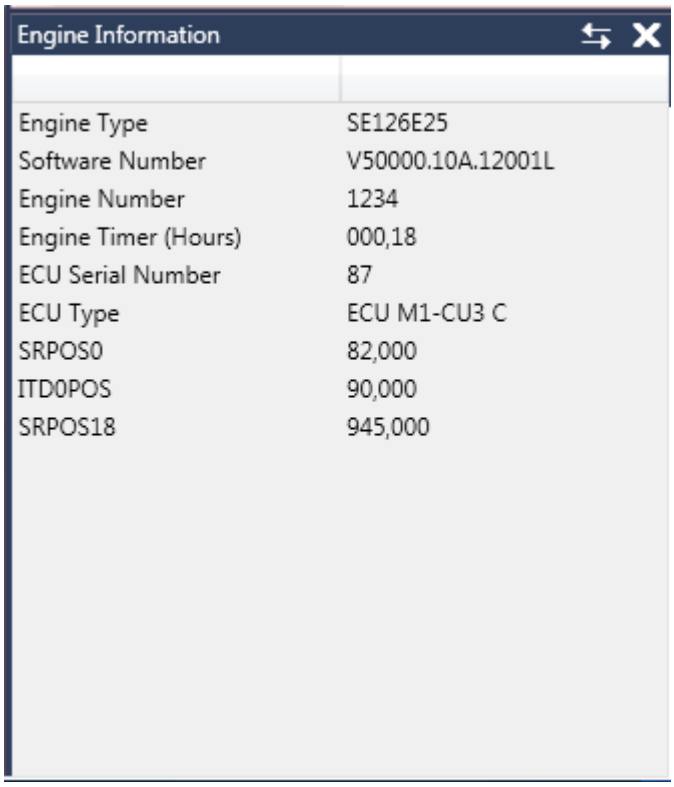
Level L1 (current)
The Error code is active. For service code table refer to Service Manual.
If an error Level 1 (L1) occurs after ignition OFF and ON again, the fault will be shown as Level 2 (L2).

Level L2 (stored)
The Error code is not active.
After a certain number of cycles, the fault won't appear anymore.

Engine Information Screen

The Engine Information Section displays the following Engine Information:

- Software Number
- Engine Number
- Engine Type
- ECU Serial Number
- ECU Type
- Engine Timer
- SRPOS0 (Rack Zero Position)
- SRPOS18 (Rack 18mm Position)
- ITD0POS (ITD Zero Position)



Status Information Screen

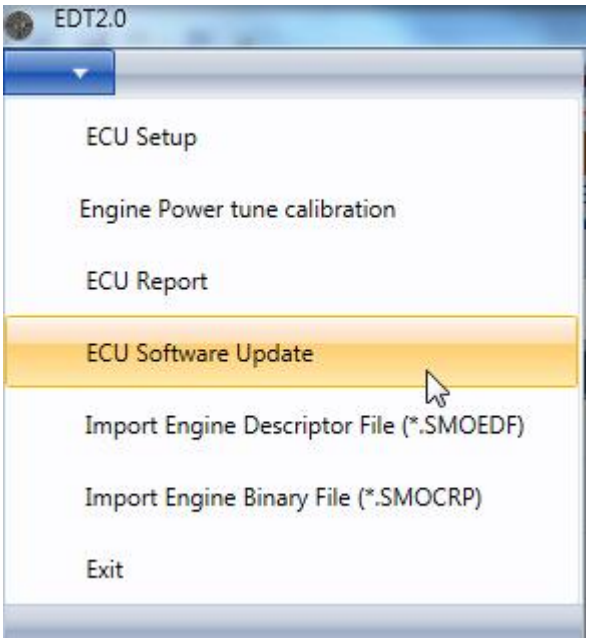
Status Information Screen shows the information of activates done on EDT 2.0 application

Status Information
Unable to Connect to GPS using Default connection. Please connect Manually.
Connecting.....
Information: There might be a new version of EDT application available. Please check at Steyr Motor's Homepage.
Successfully Connected to SMO USB-CAN Interface

Application Menu

ECU Application menu consists of:

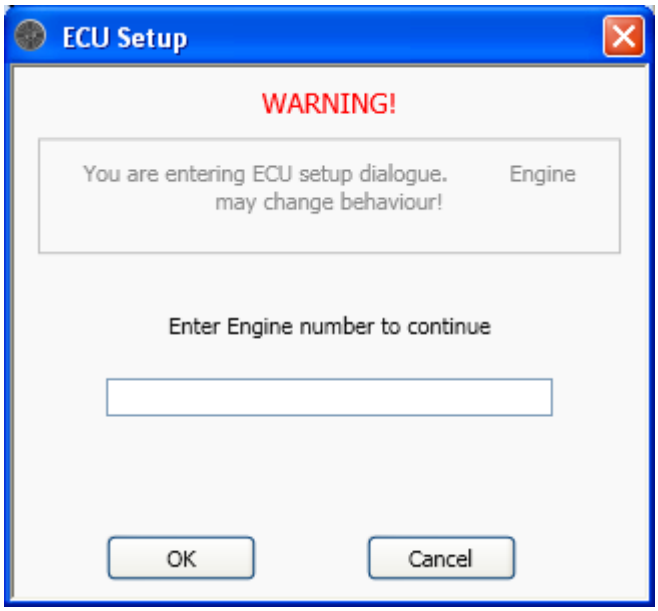
- ECU Setup
- Engine Power tune calibration
- ECU Report
- ECU Software Update
- Import Engine Descriptor File
- Import Engine Binary File
- Exit



ECU Setup

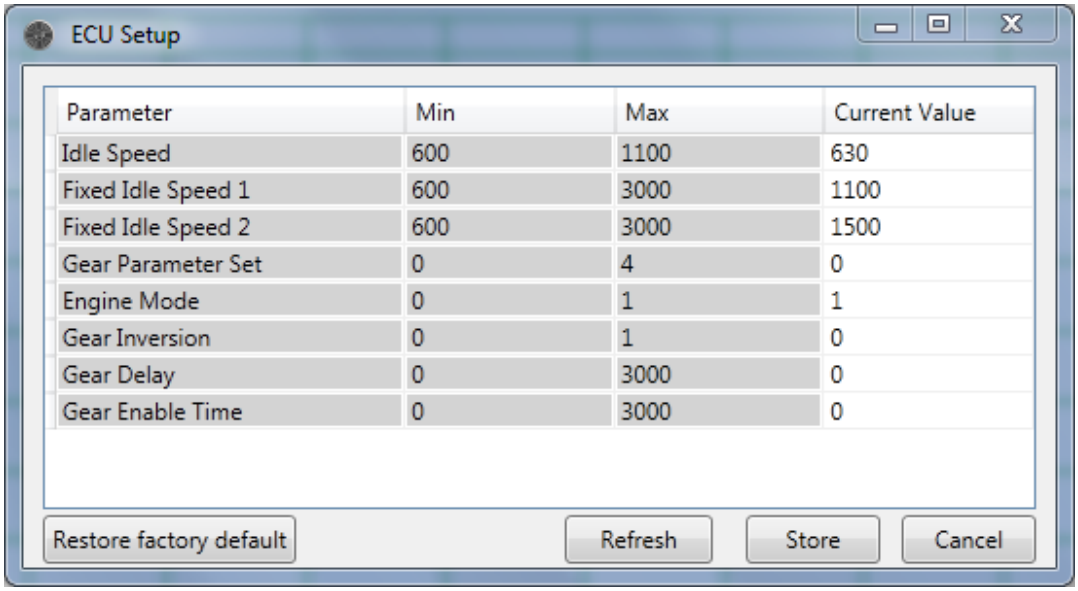
ECU Setup helps to modify the ECU parameters

To open ECU Setup window click Application Menu → ECU Setup → Enter Engine number → Press Ok

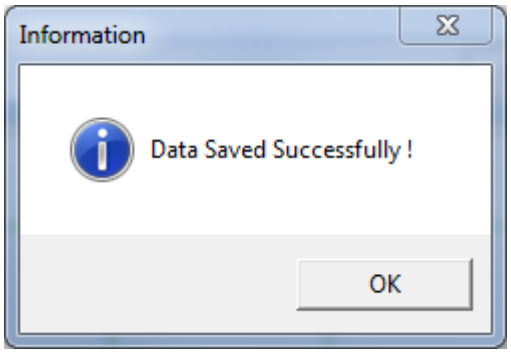


The following window contains at least 2 parameters, according to the ECU software there are more or less parameters:

- IdleSpeed: contains the current used engine idle speed
- FixedIdleSpeed1: contains the idle speed which is used, if the idle switch is switched to position 1
- FixedIdleSpeed2: contains the idle speed which is used, if the idle switch is switched to position 2
- GearParameterSet: every increase of this value will increase the idle speed while shifting for 10%
- EngineMode: choose between torque governor (select “0”) and speed governor (select “1”)
- Gear Inversion: inverts the Gear activation
- Gear Delay: Gear activation delay time in milliseconds
- Gear Enable Time: activation time for gear strategy in milliseconds



To store the given values, press the “Store”- Button, a pop up window will show, whether the storage was done.



To restore the default configuration, press “Restore factory default”.

ECU Setup HYBRID (HCCU)

ECU Setup is used for the Hybrid clutch and cooling vent mode:

Clutch vent mode
-current value = 0 → Hybrid hydraulic pump deactivated
-current value= 1 → Hybrid hydraulic pump activated
(necessary to prime Hybrid Stage II hydraulic system; refer to Hybrid Stage II Modification Manual 701778/ chapter 5.Start Up &Adjustments)

Cooling vent mode
-current value = 0 → Hybrid cooling pump(s) deactivated
-current value = 1 → Hybrid cooling pump(s) activated
(necessary to prime Hybrid stage II Cooling System; refer to Hybrid Stage II Modification Manual 701778/ chapter 5.Start Up &Adjustments)

Engine Power tune calibration

This feature is not activated yet (for future use).

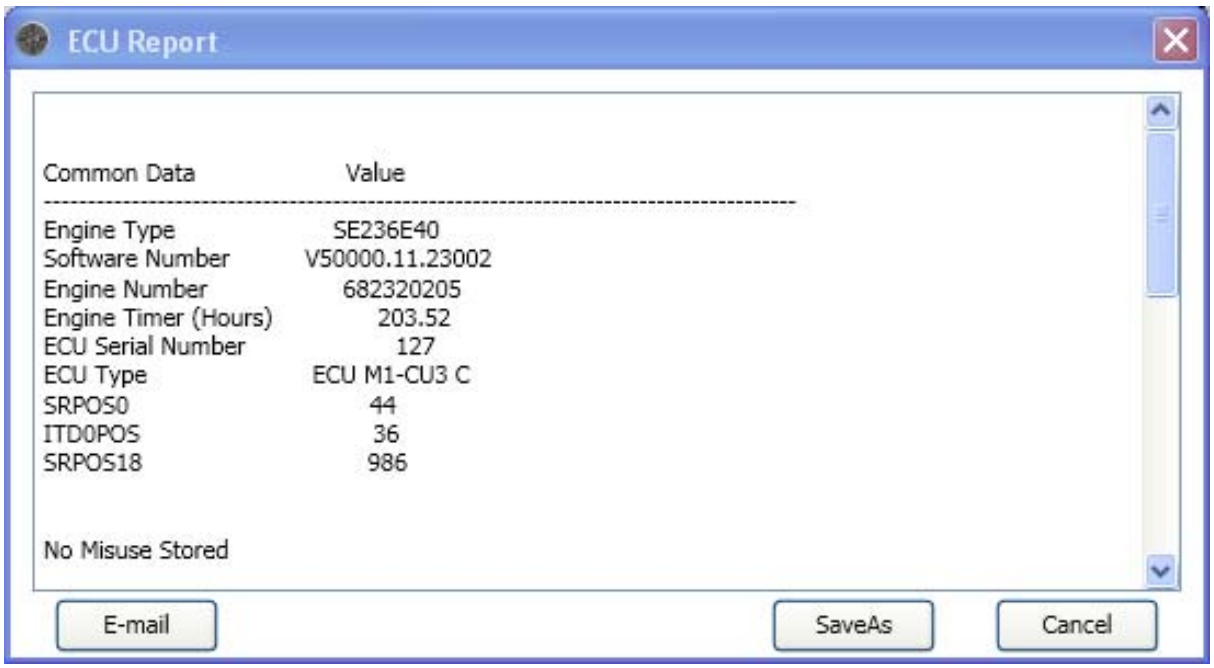
ECU Report

The ECU Report reads out stored values such as Common Data, Misuse Data, Marine Duty Rating and Load Profile.
The transfer of the ECU report data takes several seconds.

Note:
To generate the ECU Report min. Software Version V50000.11 is required.

To open the ECU Report Window click Application Menu → ECU Report

- The first section of the ECU Report shows the Common Data of the engine, which contains the same information as the Engine Information Screen,
  see Engine Information Screen.



No Misuse Stored

The second section of the ECU Report shows the stored Error Codes (only L2) and/or Misuse Code

```
LPS Misuse:
-----------------------------------------------------------------------
Version                                                              1
Misuse Code                                                        202
Engine Timer                                                  0.13 hrs
Software Version                                      V50000.11.26002
Engine Speed                                               2296 rpm
Desired Manifold Air Pressure                                 0 mBar
Manifold Air Pressure                                       980 mBar
Bit field for beta limitation                                76
Manifold Exhaust Gas Temperature                            334 °C
Fuel Density                                           825.00 kg/m3
Desired Rack Position                                       2.10 mm
Rack Position                                               2.10 mm
Lubricant Pressure                                          1.44 bar
Engine Coolant Temperature                                   -17 °C
Air Charge Temperature                                       -20 °C
Exhaust Temperature                                          -17 °C
Accelerator pedal                                             0 CMD
Corrected fuel quantity after density compensation            0 mm3
Maximum amount of fuel to be injected                         0 mm3
Fuel pressure                                               4.75 bar
Switched Battery Voltage                                   11.88 V
Commanded ITD Position                                      0.75 deg
ITD Position                                                1.19 deg
Desired VTG Turbocharger Position                             0 %
VTG Turbocharger Position                                     0 %
Misuse Counter                                                1
```

The following misuse codes can be recorded:

Number	Misuse Code	Description
201	ECT (Engine Coolant Temperature)	The Misuse Code gets stored if the temperature is too high or too low
202	LPS (Lubricant Pressure)	The Misuse Code gets stored if the pressure is too low
203	OverSpeed	The Misuse Code gets stored if the speed crosses a certain value
204	WAR (Option)	Only if kit Override (WAR) is in use
205	ACT (Air Charge Temperature)	The Misuse Code gets stored if the temperature is too high
206	EXT (Exhaust Gas Temperature)	The Misuse Code gets stored if the temperature is too high
207	FSP (Fuel Supply Pressure)	The Misuse Code gets stored if the pressure is too low

- The third section of the ECU Report shows the stored Marine Duty Rating Information

Marine Duty Rating	
HighOutput Timer	0.00 hrs
Intermittent Timer	0.00 hrs
Pleasure Timer	0.00 hrs
Medium Continuous Timer	0.00 hrs
Time of Duty Rating Measurement	0.33 hrs

- Only Errors Level 2 are shown at the end of the ecu-report-document.
- Errors Level 2 are also shown on the Freeze Frame screen (refer to chapter Freeze Frame).

Freeze Fame for DCT "8744" (0x2228)

Description	Value
Calculated Engine Load	0 %
Engine Coolant Temperature	-17 °C
Manifold Air Pressure	0 mBar
Engine Speed	2202 rpm
Vehicle Speed	0 km/h
Air Charge Temperature	-21 °C
Engine Timer	0 hrs
Lubricant Pressure	0.56 bar
Bit field for beta limitation	76
Switched Battery Voltage	11.99 V

For analysing the Marine Duty Rating, take the corresponding Rating Timer (HO, INT, MCD or P) and compare it to the complete “Time of Duty Rating Measurment”.

For detailed Marine Duty Rating specifications, please refer to the STEYR MOTORS Limited Engine Warranty Conditions

- The fourth section of the ECU Report shows the stored Load Profile.

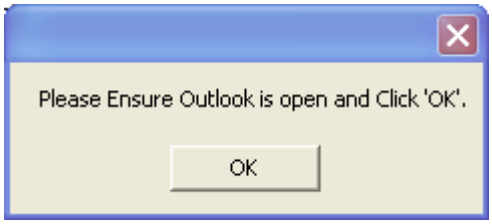
Engine Load Profile					
[%]/[rpm],	0.0-830.0,	830.0-1660.0,	1660.0-2490.0,	2490.0-3320.0,	>3320.0
0.0- 25.0,	37.38,	0.36,	0.74,	1.26,	1.26
25.0- 50.0,	3.41,	2.40,	4.17,	7.90,	2.53
50.0- 75.0,	2.43,	11.44,	23.34,	39.68,	5.60
75.0-100.0,	16.22,	213.60,	155.62,	264.55,	33.74
> 100.0,	9.73,	46.71,	190.55,	10.12,	5.60

To store the complete ECU Report, press the “SaveAs”- Button, a pop up window will show, where the Report will be stored

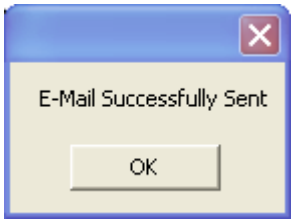
The stored File (.txt) can be opened with any Text Editor, but to have a clearly represented Report, the program Microsoft WordPad is preferred.

If you click on the Button “E-mail”, the ECU Report will be sent automatically to STEYR MOTORS

Please ensure that the Microsoft Outlook is open and confirm the following message:



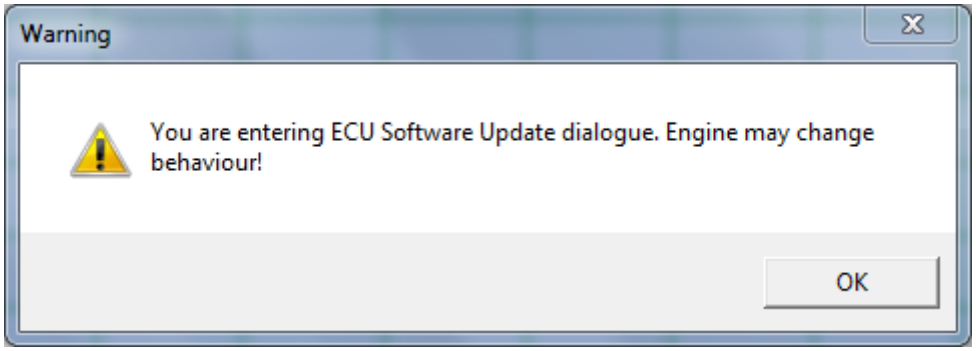
Further, ensure connection to the Internet.
If the ECU Report was sent successfully, the following message appears:



Virgin ECU Software Update

To flash a virgin / brand new ECU start EDT and click “ECU Software Update”.

A warning message appears and gives you a warning.



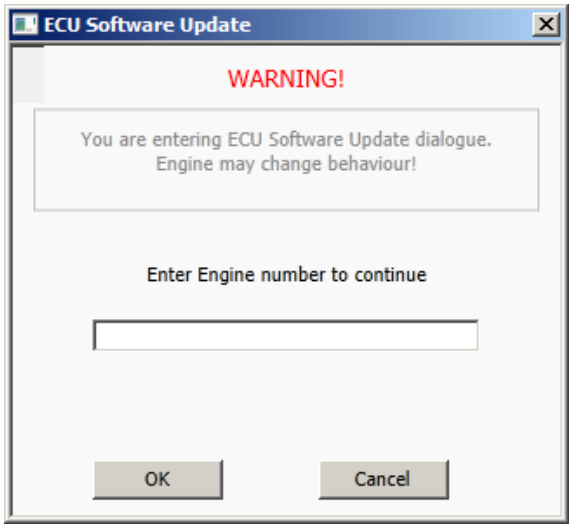
Then follow the instructions of the ECU Software Update

ECU Software Update

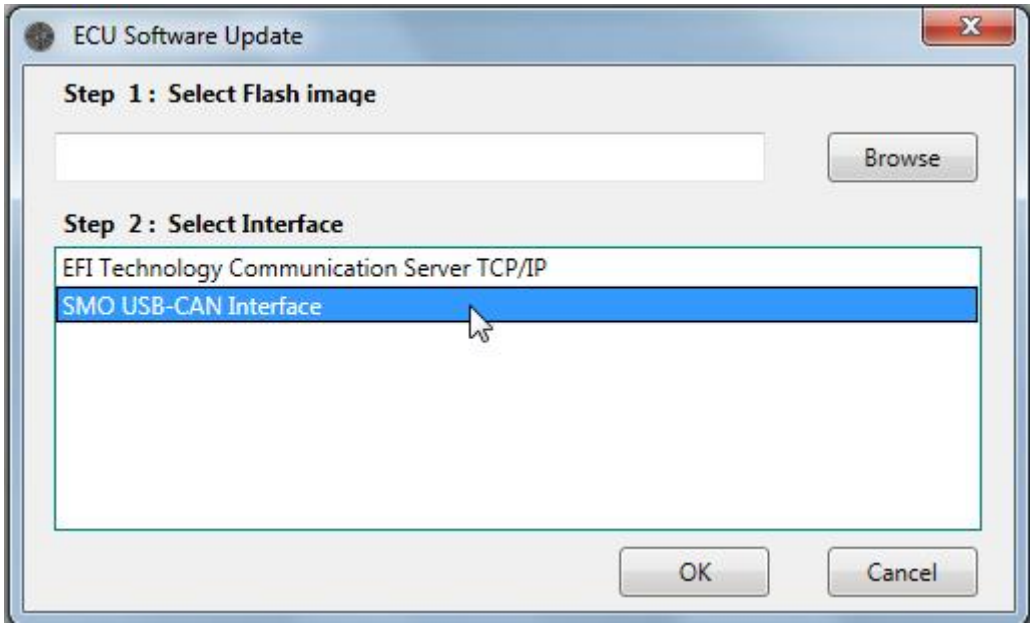
ECU Software Update helps to update the software on the ECU.

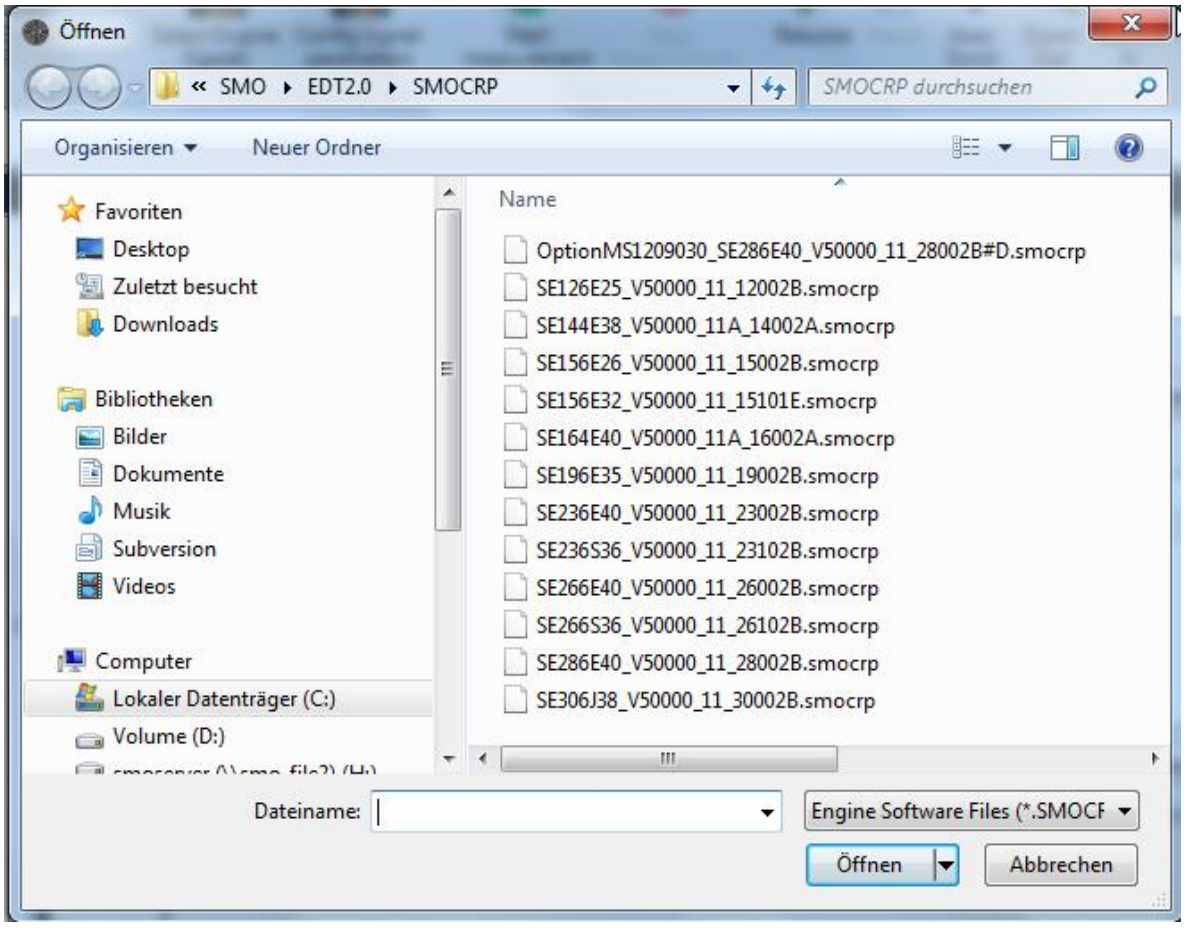
To open Software Update window click Application Menu → ECU Software Update.

The Engine number is entered for validation. Press Ok button after entering the current engine number.

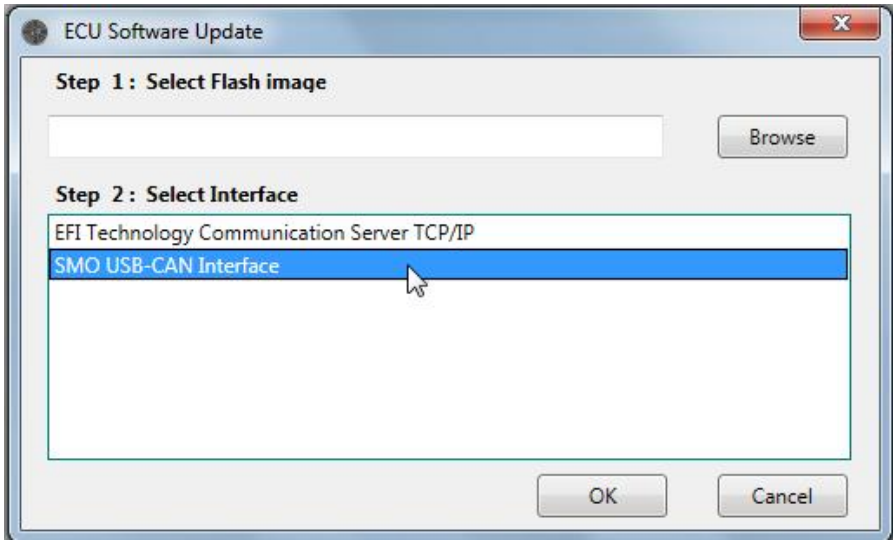


Select the ECU software file using the Browse button.

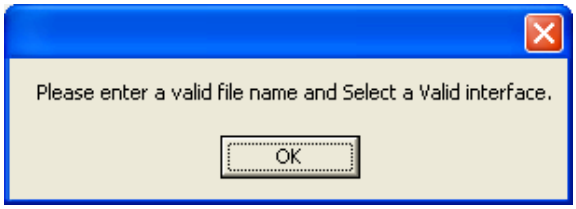


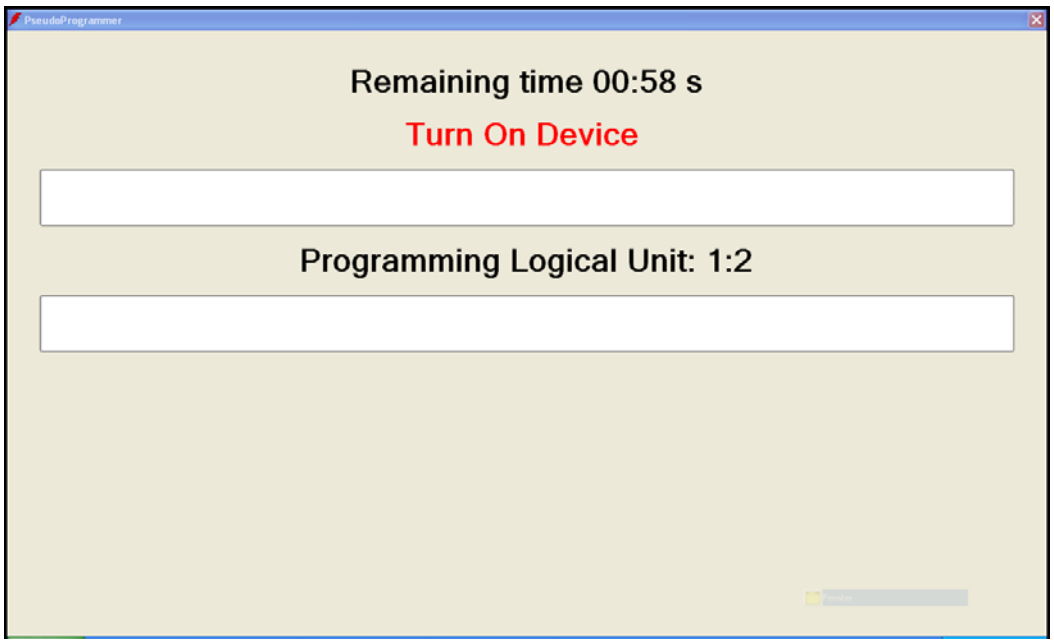


Select the interface to be used to program the ECU from the list displayed.



Press Ok. After selection of a valid Flash image file and an interface.
If a valid file or interface is not selected the below message is shown. Press Ok and try again.





Turn Ignition Off and On again for starting the update.
During the ECU Software Update the ECU Setup settings get lost.
Check the ECU Setup after the ECU Software Update and change settings if necessary.
Refer to “ECU Setup” (see ECU Setup)

Import Engine Descriptor File

To use other available files on your Computer (sent by mail), you can use the import function to import a file to the SMO program folder. Press the “Import Engine Descriptor File” menu item and choose a valid SMOEDF file.
After the successful import, you will find this file in the SMO program folder.

If the import was not successful, this file is already in the folder.

Import Engine Binary File (Engine Software)

To use other available files on your Computer (sent by mail), you can use the import function to import a file to the SMO program folder. Press the “Import Engine Binary File” menu item and choose a valid SMOCRP file.
After the successful import, you will find this file in the SMO program folder.

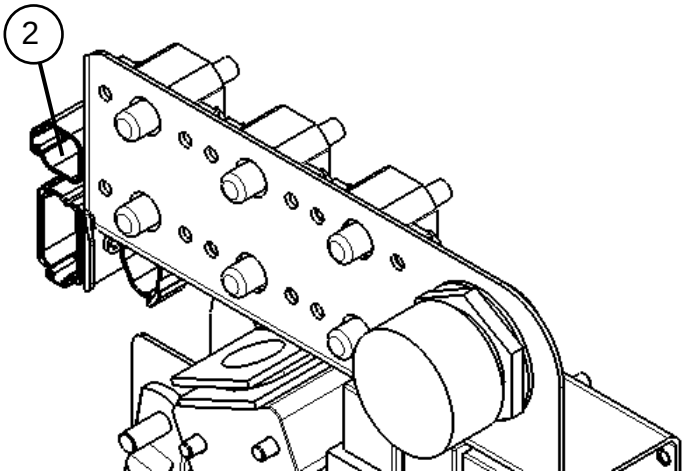
If the import was not successful, this file is already in the folder.

Exit

Exits the EDT 2.0 application
To Exit click Application Menu → Exit.

Connect

1. Connect the plug (1) from the Diagnostic Tool Set (2201878/0) to X2 (2) on the front side of the E-box.



2. USB connection to the PC (yellow)
   - Wait, until there is a connection
   - USB illuminated yellow
   - Driver installed correctly

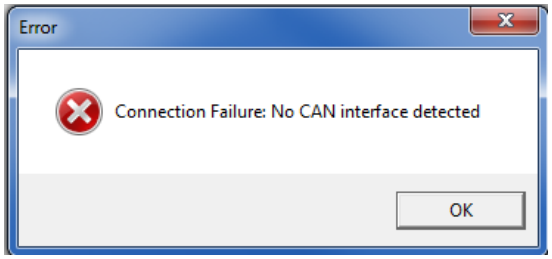
3. No USB-Driver installed (green and red)
   - Wait, until there is a connection
   - TX and RX illuminated green and red
   - Driver installed not correctly
   - Reinstall the driver manually (on the current USB-Port)

4. Turn ignition on
5. Connect (see Page 27)

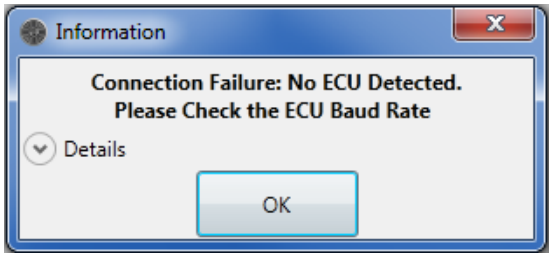
Auto Connect

Connects to ECU automatically. Go to Connection Menu →Auto Connect.

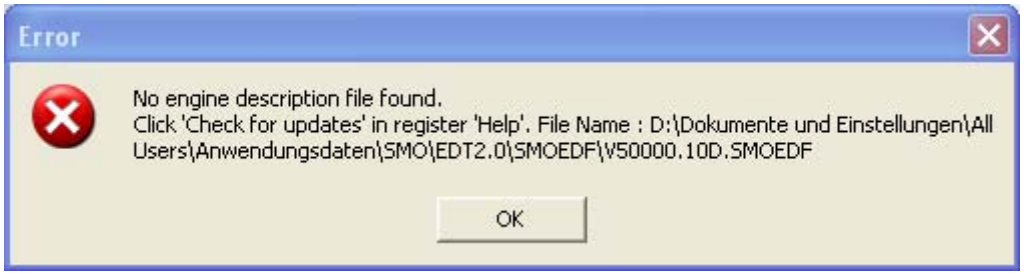
If no CAN connection displays an error message – Connection Failure: No CAN interface detected



CAN is connected, but ECU is not connected or no Power supply to ECU displays an error message – “Connected Failure: No ECU Detected”

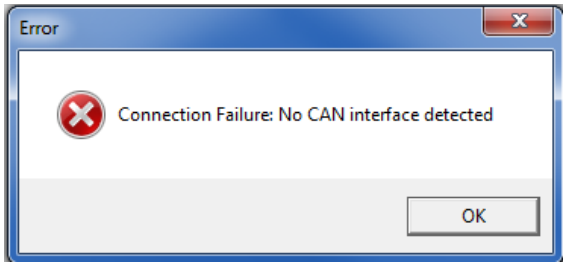


CAN is connected, but Engine Descriptor File (SMOEDF) is missing.
Refer to “Check for Engine Descriptor Updates” (see Check for Engine Descriptor Updates)

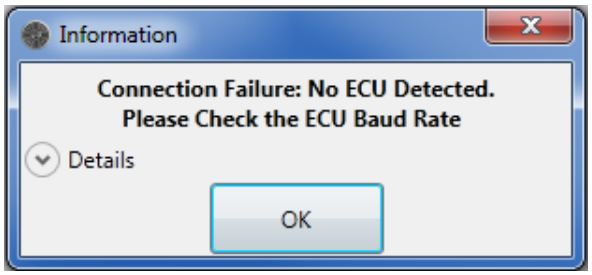

Error
No engine description file found.
Click 'Check for updates' in register 'Help'. File Name : D:\Dokumente und Einstellungen\All Users\Anwendungsdaten\SMO\EDT2.0\SMOEDF\V50000.10D.SMOEDF
OK

Manual Connect

Go to Connection Menu →Manual Connect.
Display Open window and Prompt to select file .SMOEDF.
Connects to ECU automatically after selection of the right .SMOEDF-file
If no CAN connection, displays an error message – “Connection Failure: No CAN interface detected”

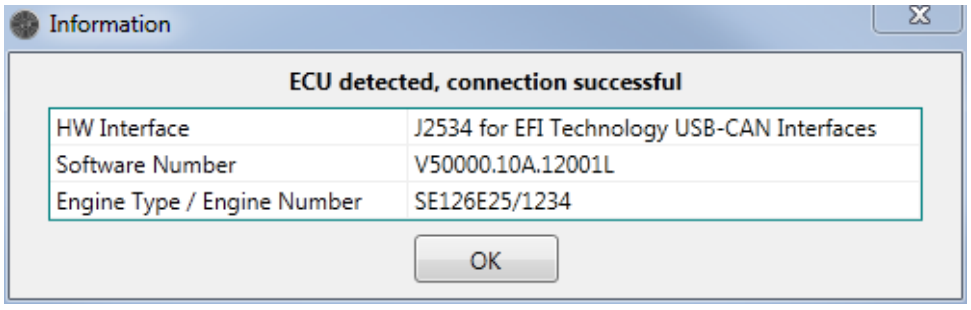


CAN is connected, but ECU is not connected or no Power supply to ECU displays an error message – “Connected Failure: No ECU Detected”



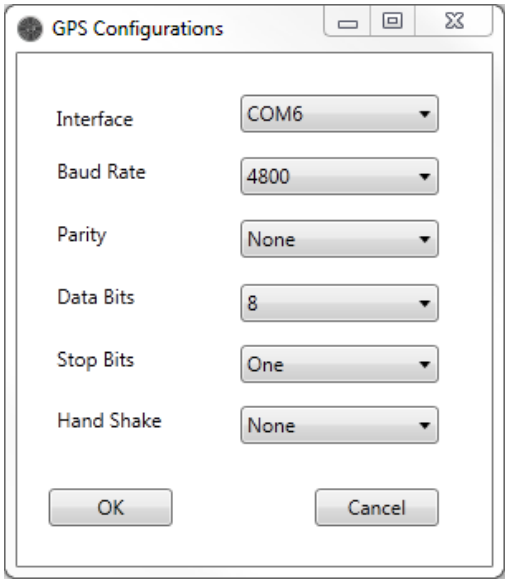
CAN device and ECU connected but ECU is invalid or not responding as expected, displays an error message – “Connection Failure: ECU is not compatible with the application EDT”

Display message on successful connection to EDT– ECU detected, connection successful

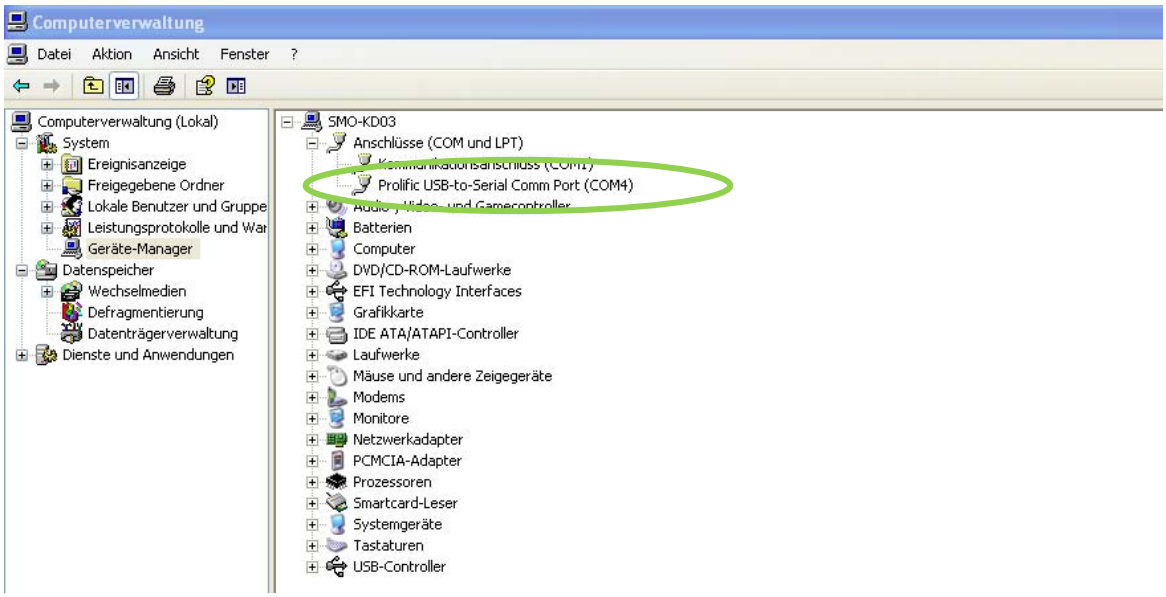


Manual GPS config

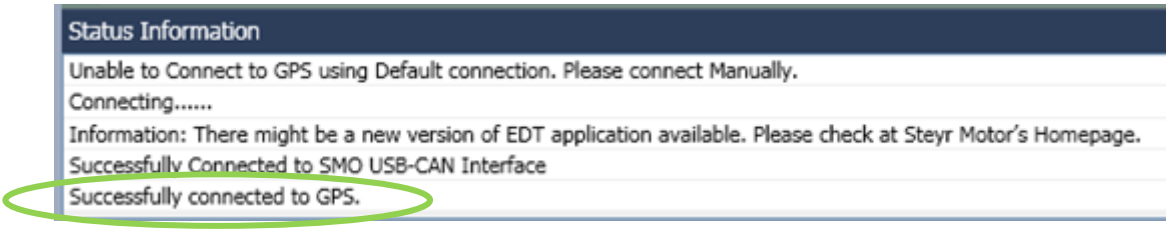
The setting of the GPS-System depends on which GPS-System is in use.
Use the following configuration for the “SMO velocity transceiver for EDT2.0“
PNo.: 2181338-0



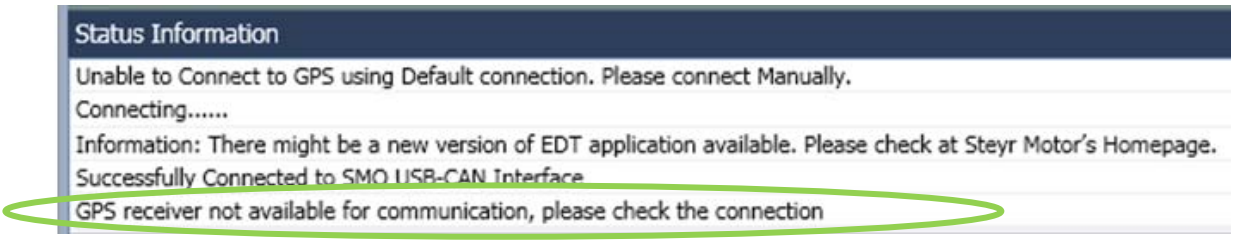
Find the used COM Port in the Device Manager:
Control Panel → Device Manager



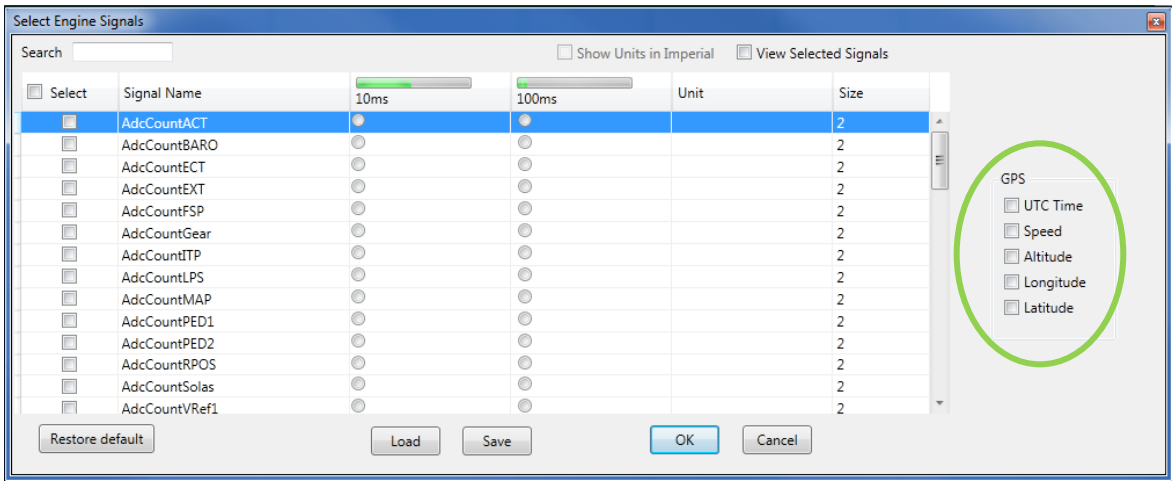
Look if the connection was successful:


Status Information
Unable to Connect to GPS using Default connection. Please connect Manually.
Connecting.....
Information: There might be a new version of EDT application available. Please check at Steyr Motor's Homepage.
Successfully Connected to SMO USB-CAN Interface
Successfully connected to GPS.

If the following message appears, check if any other program is using the GPS Device

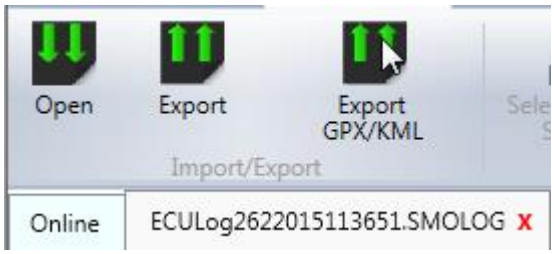

Status Information
Unable to Connect to GPS using Default connection. Please connect Manually.
Connecting.....
Information: There might be a new version of EDT application available. Please check at Steyr Motor's Homepage.
Successfully Connected to SMO USB-CAN Interface
GPS receiver not available for communication, please check the connection

To see the current GPS information you can choose the desired signals in the Select Engine Signals dialog in GPS Section.

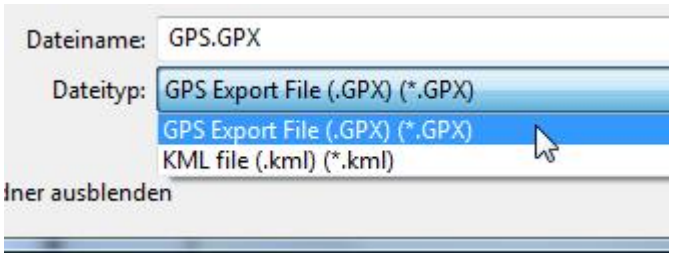


Export GPS

GPS-Data can be exported by using the “Export GPX/KML” button.



Select either “GPS Export File” or “KML file” to store the GPS data in “.gpx” or “.kml” format.

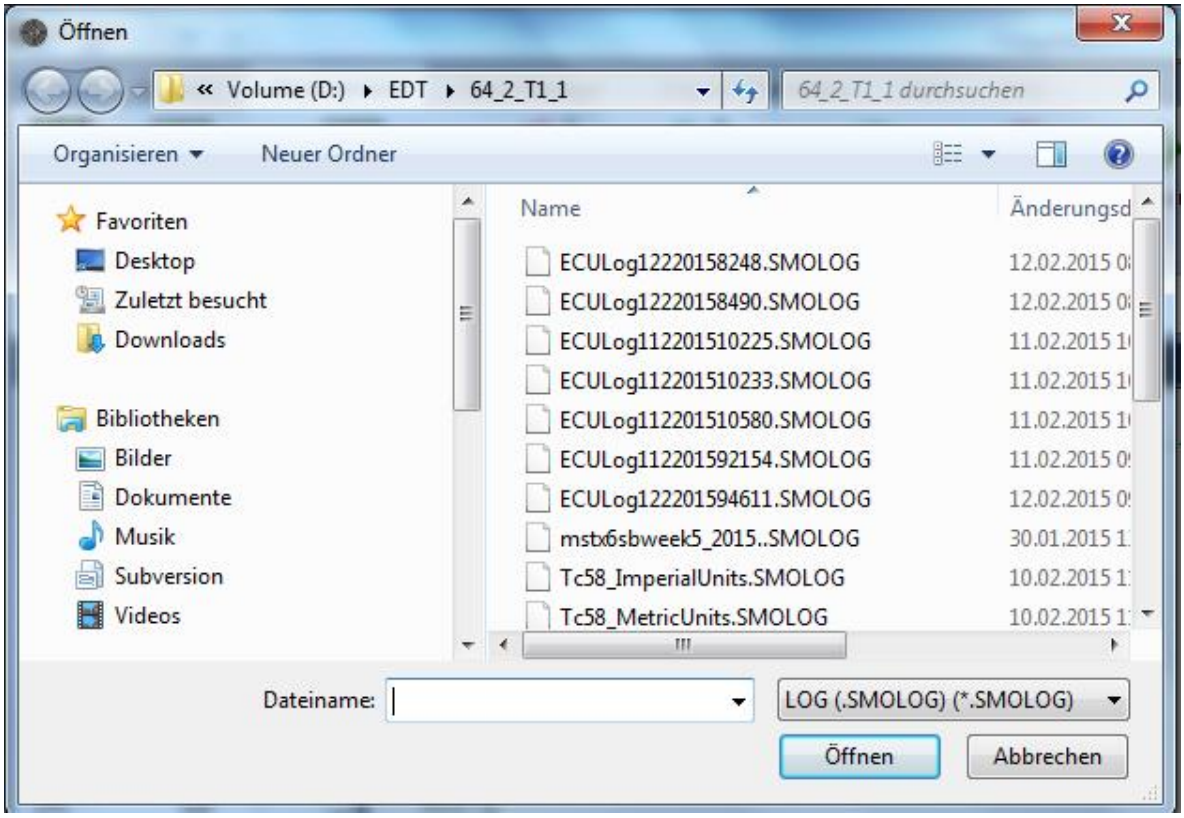


The stored GPX-File can be opened with Microsoft Excel.
The stored KML-File can be uploaded to e.g. Google Maps for route tracking.

Open (multiple tabs)

To open and load a stored log file for analysis, follow the steps:
Click Open button - Displays Open window and prompt to select file .SMOLOG

On selection of .SMOLOG file, displays the stored Measurements. Go to Measurement Menu →Open.

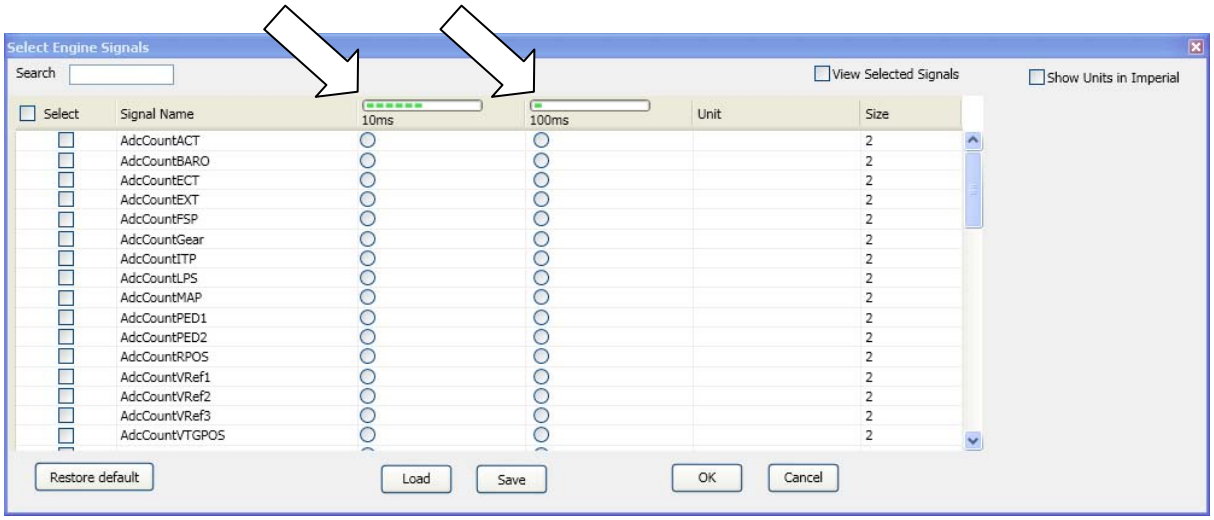


Select Engine Signals

To open Display Select Engine Signal window click on the “Select Engine Signals” button. Required signals can be selected for measurement. Also the frequency for each signal measurement can also be selected.

Go to Measurement Menu → Select Engine Signals.

You can add additional parameters, which are shown in the Measurement screen.
Note: stop adding parameters if the green scale is full.



Restore to the default parameter selection with the “Restore default” button.
Save / Load your own configuration of the selected parameters.
Following Measurement Signals are available:

Signal Name	Description
ACT	Air Charge Temperature
AdcCountACT	Analog to digital converted counts
AdcCountBARO	Analog to digital converted counts
AdcCountECT	Analog to digital converted counts
AdcCountEXT	Analog to digital converted counts
AdcCountFSP	Analog to digital converted counts
AdcCountGear	Analog to digital converted counts
AdcCountITP	Analog to digital converted counts
AdcCountLPS	Analog to digital converted counts
AdcCountMAP	Analog to digital converted counts
AdcCountPED1	Analog to digital converted counts
AdcCountPED2	Analog to digital converted counts
AdcCountRPOS	Analog to digital converted counts
AdcCountSolas	Analog to digital converted counts
AdcCountVREF	Analog to digital converted counts
AdcCountVRef1	Analog to digital converted counts
AdcCountVRef2	Analog to digital converted counts
AdcCountVRef3	Analog to digital converted counts
AdcCountVTGPOS	Analog to digital converted counts
BARO	Ambient pressure (Barometric)
BETA	Fuel Quantity to be injected
BETA_MCRK	Maximum Fuel Quantity (Beta) during cranking
BETA_MIN	Minimum beta for cold start
BETACAL	Fuel quantity calculated from pedal position (via TBGOVT)
BETACOM	Commanded beta from idle speed governor
BETACORR	Corrected fuel quantity after density compensation
BETAMAX	Maximum quantity of fuel to be injected
BETAQM	Current fuel quantity calculated from engine actual behavior
BLIMDIAG	Bitfield for BETA limitation
CMD	Accelerator pedal (Command)
CRI	Crank indicator input
CRKT	Crank temperature calculated from ECT and ACT
ECT	Engine Coolant Temperature
ENGMODE	Engine operation mode 1 "Power On" 2 "Crank" 4 "Idle" 64 "SOLAS"
EXT	Exhaust Temperature (in elbow pipe)
FSP	Fuel Supply Pressure
FUEL_DENS	Fuel Density
FUEL_RATE	Calculated fuel consumption from actual engine behavior
GEAR_INPUT	Gear switch input

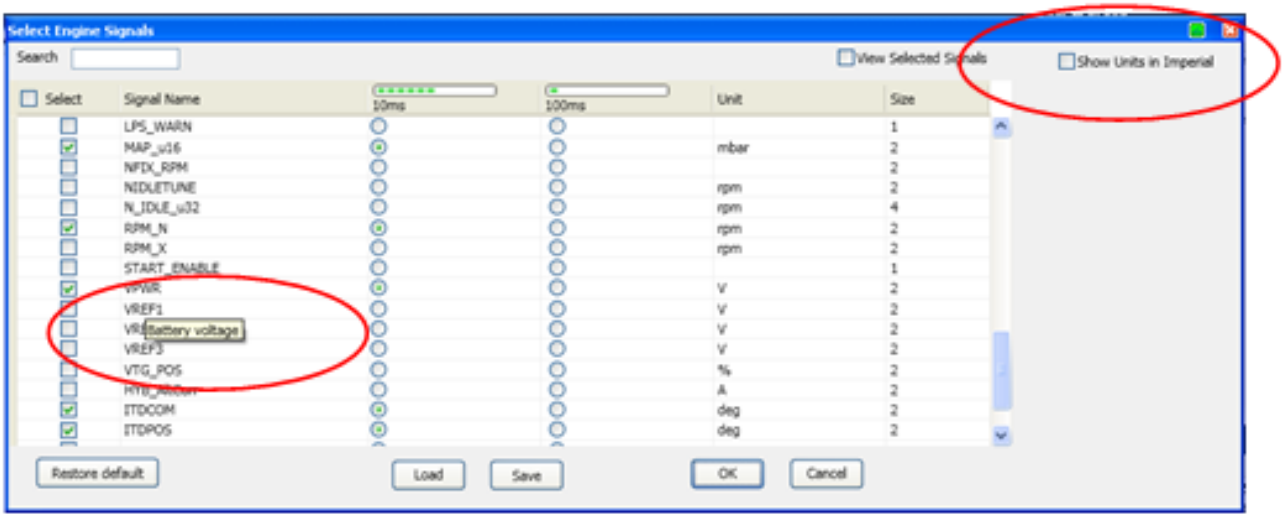
GIR	Ground isolation relay output
GLOW_PLUGS	Glow Plug Relay output
HYB_AltCurr	Alternator current when boost mode is active
ITDCOM	Commanded Injection timing device position
ITDPOS	Injection timing device position
LPS	Lubricant Pressure
LPS_WARN	Low lubricant pressure warning
MAP_u16	Manifold Absolut pressure
N_IDLE	Actual desired speed in idle mode
NFIX_RPM	actual desired fixed idle speed
NIDLETUNE	Idle speed tuning value, set by EDT2.0
RPCOM	Commanded Rack position
RPM_N	Filtered Engine Speed (standard)
RPM_X	Slightly Filtered Engine Speed
RPOS	Current rack position
START_ENABLE	Starter enable control
TRIP_FUEL	Calculated fuel consumption from Ignition ON to OFF
TS_time_ms	Global millisecond counter for time measurement
VPWR	Input Voltage ECU
VREF1	Sensor reference voltage 1
VREF2	Sensor reference voltage 2
VREF3	Sensor reference voltage 3
VTG_POS	Position VTG

Following Measurement Signals are available for diagnostic of HCCU (Hybrid Clutch Control Unit):

Signal	**Device**	**Description**
Input		
CPS_u16	Clutch Pressure Sensor	Pressure of the hydraulic of the clutch
UVP_b	Under-Voltage-Protection	If the batteries have a to low charging state the input is set (only used in the Mastervolt System)
OVP_b	Over-Voltage-Protection	If the batteries are fully charged the input is set (only used in the Mastervolt System)
EC_b	Mode Change Button	button to switch to the electrical mode
Output		
HYD_PUMP_b	Hydraulic Pump Output	Shows if the hydraulic pump should be running or not
CO_OUT_b	Clutch Open Relays	Shows the output of the clutch open relays
CC_OUT_b	Clutch Close Relays	Shows the output of the clutch close relays
HCU_PWR_b	HCU Power Relays	Shows the output of the HCU power relays
HPV_b	Hydraulic Valve	Shows the output of the hydraulic valve

		relays
SLR_b	Startlock Relays	Shows the output of the startlock relays
CPR_b	Cooling Pump Relays	Shows the output of the cooling pump relays
VREF1	Reference Voltage 1	Reference Voltage of the Sensor supply voltage
VREF2	Reference Voltage 2	Reference Voltage of the Sensor supply voltage
VREF3	Reference Voltage 3	Reference Voltage of the Sensor supply voltage

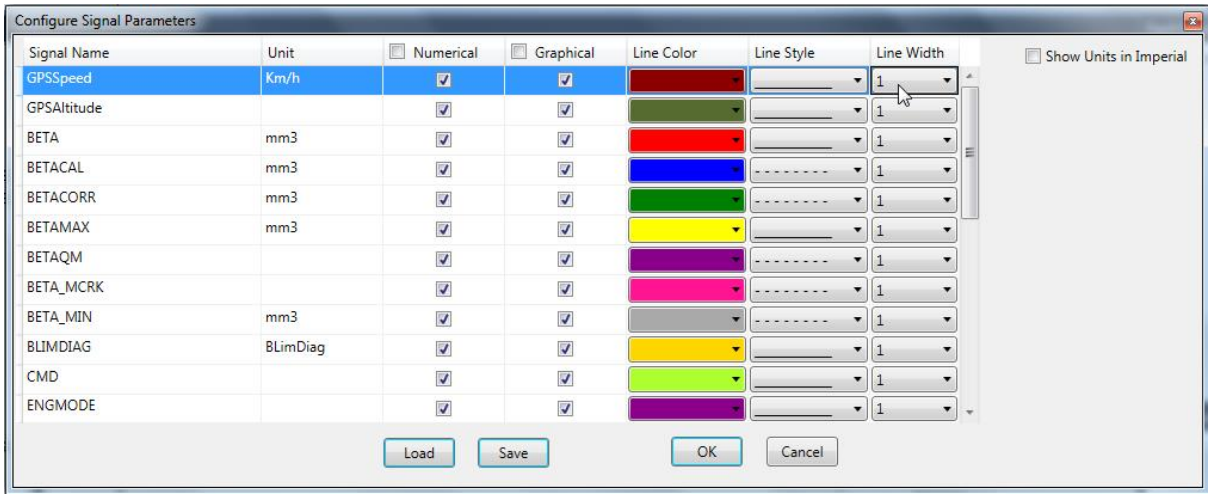
#A tooltip appears when you drop the mouse to a signal. It will show you a description of the selected signal.



Select the check box “Show Units in Imperial” to switch from Metric to Imperial Units.

Config Signal Parameters

To open Display Select Engine Signal window click on the “Configure Signal parameters” button. The display properties of each of the signal selected can be set. Go to Measurement Menu →Configure Signal Parameters.



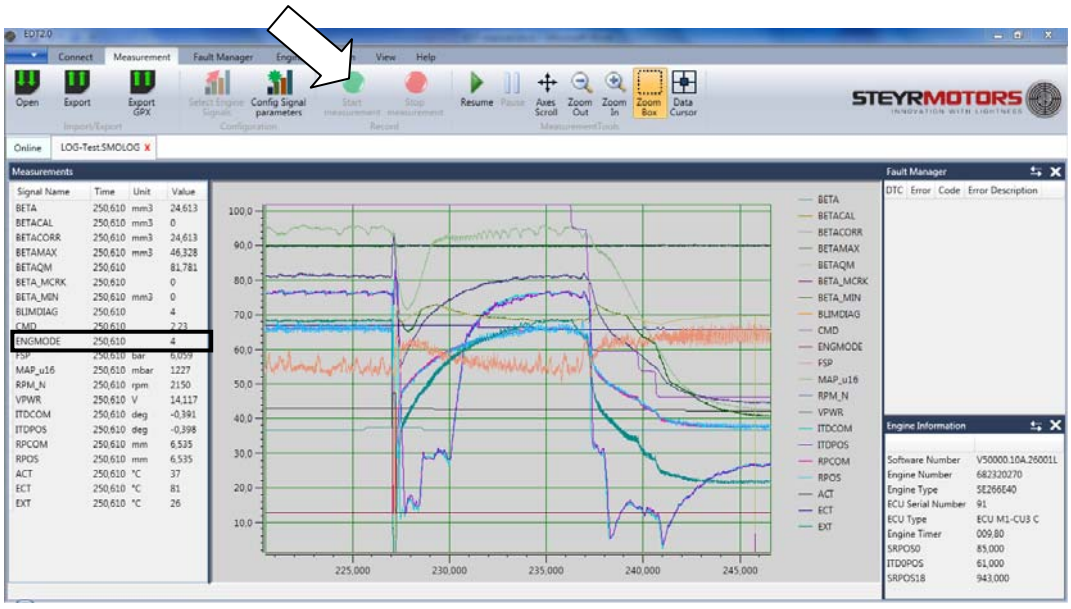
Numerical: is shown in “Measurement Screen (Numeric)“ → only numbers
Graphical: is shown in “Measurement Screen (Graph) “

Select the check box “Show Units in Imperial” to switch from Metric to Imperial Units.

Start Measurement (Shortcut F9)

Measurement can be started by clicking on the “Start Measurement” button. The Measurement is started and the selected signals are shown in the Measurement window as per configuration.

Go to Measurement Menu →Start Measurement.



BILMDIAG

The BLIMDIAG object is built by the following list of bits called “BLD*”,
an information, to catch the error causing circumstances (tables, function) to fix it.

Example: BLIMDIAG is 12
12 = 8 + 4
8 = BLDlps
4 = BLDla
Results must always be zero

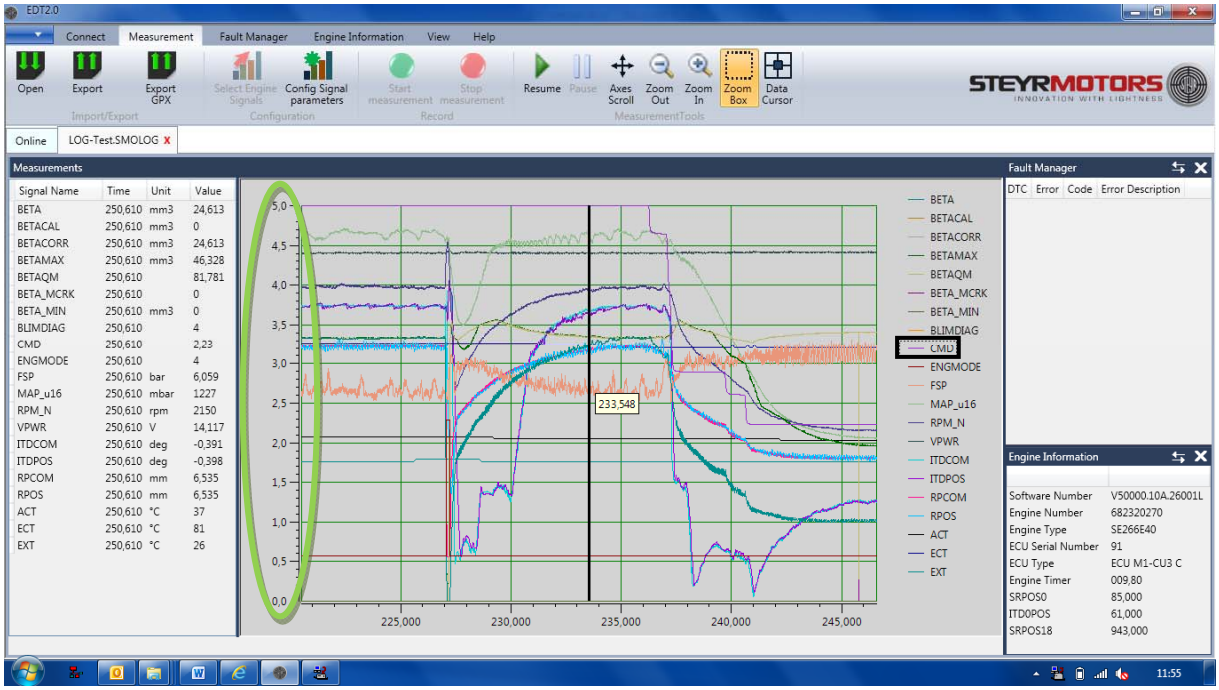
The following table describes the bit fields:

Bit Value	Describtion	Bit-Name
1	BETA_max limited on max. Injection Quantity Table	BLDqm
2	BETA_max limited by Air Charge Temperature	BLDact
4	BETA_max limited on insufficient boost pressure at given load & speed Note: During transient driving condition BLimDiag parameter must be ignored because this “Bit” indication reflects the dynamic parameter situation of momentary load & speed condition. After establishing steady state condition parameter value (bit) will be considered for computing BETA_max	BLDla
8	BETA_max limited due to insufficient lubricant pressure at present engine speed	BLDlps
64	BETA_max limited due to high engine coolant temperature	BLDect
256	BETA_max limited because of ITD-position	BLDitd
1024	BETA_max limited due to ITV / ITPsensor error high or low	BLDitderr
2048	BETA_max limited by Exhaust Gas Temperature	BLDext
4096	BETA_max limited by Manifold Exhaust Temperature	BLDt30

Stop Measurement (Shortcut ESC)

Measurement can be stopped by clicking on the “Stop Measurement” button. Upon measurement stoppage, the log file with the data of the measurement can be saved (.smolog –format). This log file is loaded on the measurement window for further analysis. The name of the log file is shown on the application title.

Go to Measurement Menu →Stop Measurement.

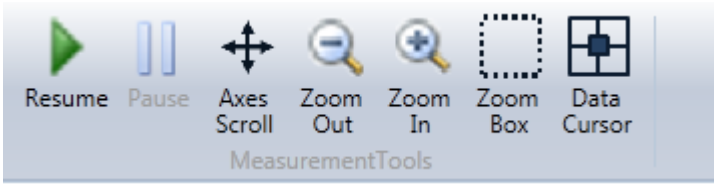


Axis Scale:
The Scale of Y-Axis (Ordinate) is depending on the selected parameter (CMD).

Stop Measurement (Shortcut ESC)

Measurement-Data can be exported by using the “Export” button.
The Files are stored in “.smorec” format.
“.smorec” can be opened with MS Excel or any Text Editor.

Measurement Tools



A number of options are provided control the display of measurements on the screen. These are

Resume

Resumes the default settings and focuses on the latest signals being added.

Pause

Pauses the scrolling of the Measurement screen.

Axes Scroll

Provides the option to scroll the axis.

Zoom Out

Zooms out of the Measurement screen

Zoom In

Zooms into the Measurement screen

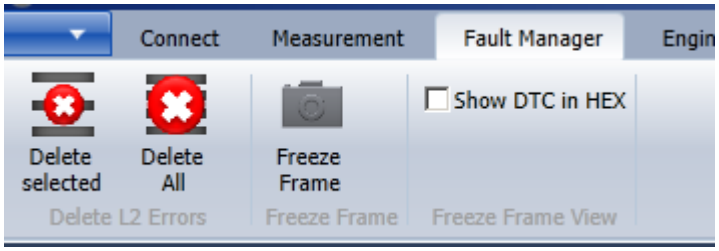
Zoom Box

Zoom into an area marked on the Measurement screen

Data Cursor

Show a cursor on the Measurement screen, for details of the exact values at the cursor point. Move the cursor with the arrow keys (right and left) when the cursor is selected.

Fault Manager



Delete Selected L2 (stored)

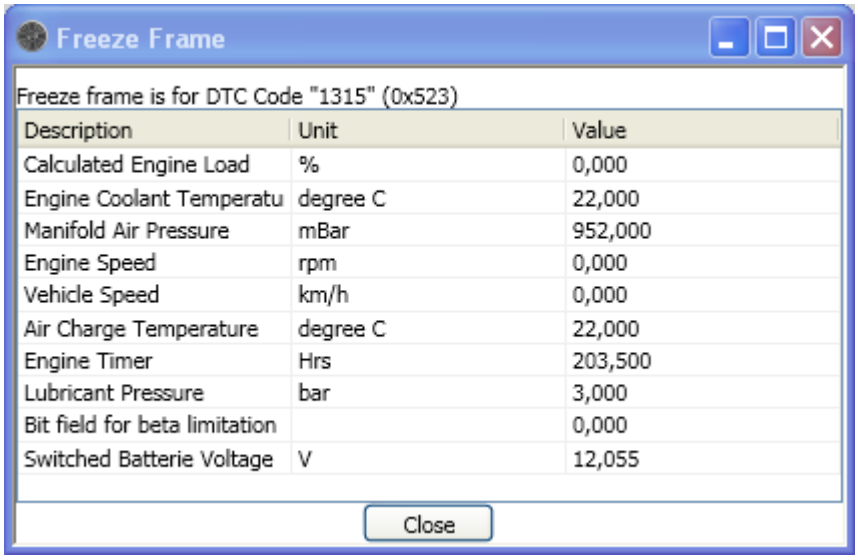
Deletes the selected Fault (in the fault manager window). Go to Fault Manager Menu →Delete Selected
NOTE: Only L2 faults can be deleted.

Delete All L2 (stored)

Deletes all available stored faults. Go to Fault Manager Menu →Delete All

Freeze Frame

Displays the Freeze Frame information for the selected Service Codes. Go to Fault Manager Menu, select one Service Code → Freeze Frame
Freeze Frame registers Engine Data of the moment when a failure occurs.



Show DTC in Hex

When selected, the DTC is shown as hexadecimal values in the fault manager window. Go to Fault Manager Menu →Show DTC in Hex

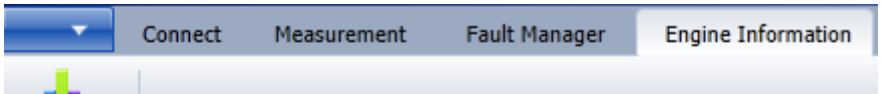
For detailed fault information see:
Service Manual Chapter 06-Electric → Principle service code table

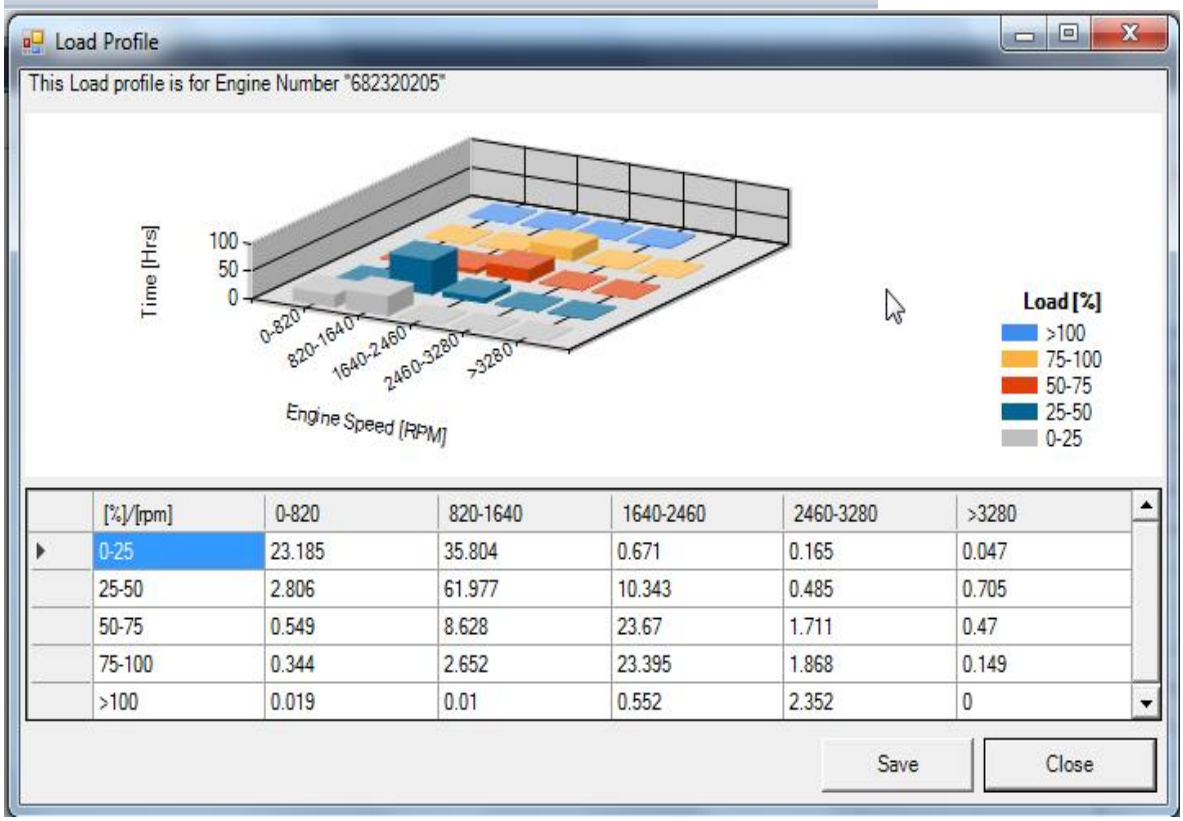
Engine Information

Load Profile

Shows the engines load profile. The x-Axis shows the engine speed [rpm_n] and the y-Axis shows the driven load and percent of the maximum fuel quantity. The z-Axis shows the engine hours [hrs].

Go to Engine Information Menu → Load Profile



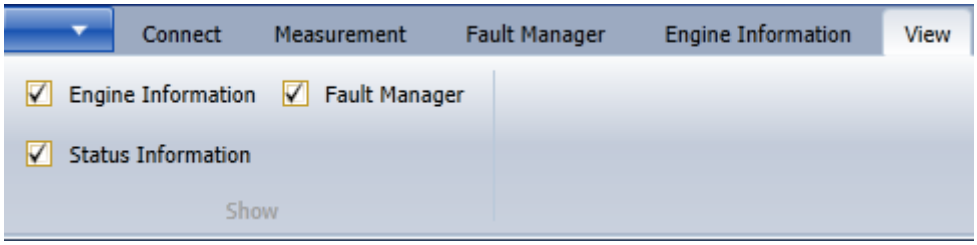


[%]/[rpm]	0-820	820-1640	1640-2460	2460-3280	>3280
0-25	23.185	35.804	0.671	0.165	0.047
25-50	2.806	61.977	10.343	0.485	0.705
50-75	0.549	8.628	23.67	1.711	0.47
75-100	0.344	2.652	23.395	1.868	0.149
>100	0.019	0.01	0.552	2.352	0

Press the “Save” button to store the Load Profile table section in .csv format, see below shown picture:

[%]/[rpm]	0-820	820-1640	1640-2460	2460-3280	>3280
0-25	23.185	35.804	0.671	0.165	0.047
25-50	2.806	61.977	10.343	0.485	0.705
50-75	0.549	8.628	23.67	1.711	0.47
75-100	0.344	2.652	23.395	1.868	0.149
>100	0.019	0.01	0.552	2.352	0

View



Engine Information

Controls the display of the Engine information window. Go to Help Menu → User Manual

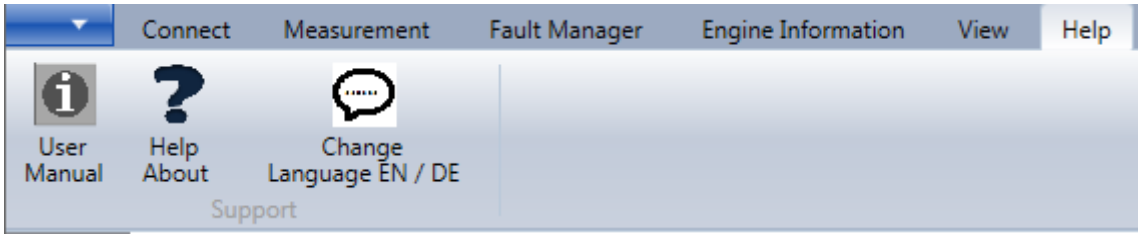
Fault Manager

Controls the display of the Fault Manager window.

Status Information

Controls the display of the Status information window.

Help



User Manual

Displays the User manual for the application. Go to Help Menu → User Manual

Help About

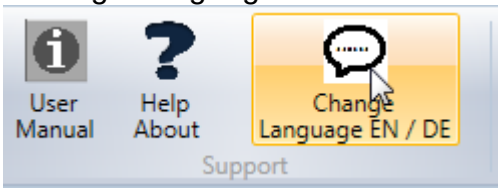
To display information about EDT 2.0 Application, will also show the installed Software version of the EDT.

Go to Help Menu → Help About

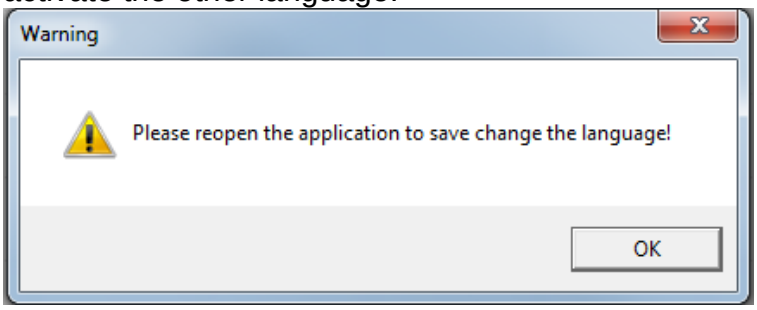
About EDT 2.0
STEYRMOTORS
INNOVATION WITH LIGHTNESS
Engine Diagnostics Tool 2.0
Version : 1.3.12.33
Warning: This computer program is protected by copyright law and international treaties. Unauthorized reproduction in severe civil and criminal penalties, and will be persecuted to the maximum extent possible under the law.
OK

Change Language EN / DE

To change the program language from English to German, click on the button “Change Language EN / DE” as shown below:



After accepting below shown warning, close the EDT 2 program and open it again to activate the other language.

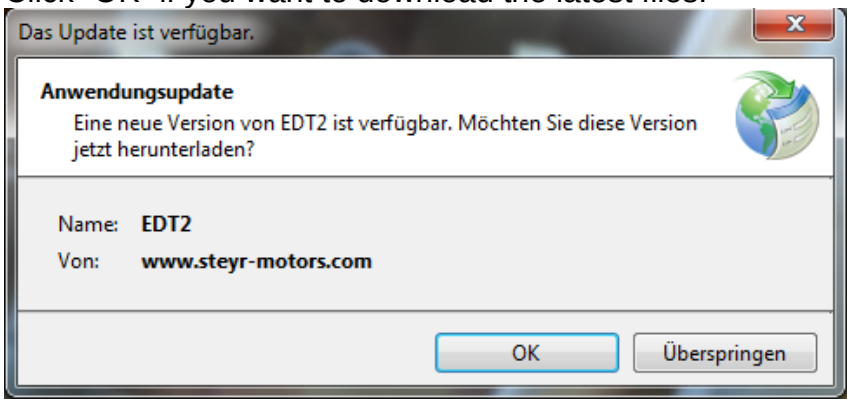


File update

The update of the .SMOEDF & .SMOCRP-files and the EDT2 application itself will happen automatically during the start-up of EDT2.0.

Every time the EDT2 application gets opened, the program checks the file version automatically in the background.

If there is a newer version available, it will be downloaded automatically during the next time when the application gets opened.
Click “OK” if you want to download the latest files:



Note: Please ensure that there is an internet connection available during opening of EDT2, if a file-version check is required.

Frequently Asked Questions (FAQ's)

1. During the Installation of EDT 2.0, Windows is asking for ".NET Framework". Where can I find this program?
    - Find the link on the SMO – Homepage: http://www.steyr-motors.com/download/tools/smo-edt-diagnostic-tool-list-files/se-series/

2. I can't find the GPS - Device in the Device Manager (Prolific USB-to-Serial Comm Port)
    - Wait until the automatic installation of the driver has finished
    - Is the problem still existing, try another USB – Port or install the driver (from the CD-ROM) manually

3. The GPS – connection was successful (acc. Information window), but no GPS – data are measured (Lat = 0, Lon = 0, Alt = 0)
    - Ensure GPS reception quality
    - Check selected Baud Rate, see "Manual GPS config" (see Page 29)
    - Check selected ComPort, see "Manual GPS config" (see Page 29)

4. After interrupting the measurement, there are more parameters shown as selected before.
    - The EDT 2.0 always measures some parameters in the background, which are shown in the log-mode only (offline)

5. After the Software Update the shown SW-Number, in the Engine Information Window, is still the same as before.
    - Disconnect via the disconnect-button, close EDT 2.0 application and try it again
    - SW Update was not successful, try again (see SW Update, Page 21)

6. After the Software Update the engine doesn't start and/or the RPM indicator is moving up and down on the instrument panel.
    - The wrong SW was flashed. Compare the SW-number and the engine type.
    - Take the right SW-file and Update again (see SW Update, Page 21)

7. It is not possible to delete the DTC (error code).
    - Check if you are in the online mode. In the log-mode (offline) DTC's can't be deleted
    - Check if you have selected a L1 (current) or L2 (stored) fault. L1 faults can't be deleted

8. It is not possible to open the Freeze Frame for the selected DTC (error code)
    - Check if you are in the online mode. In the log-mode (offline) Freeze Frame is not available

9. I can't Import the files via the Import Button.
    - The file is already in this folder
    - Copy the downloaded files manually in the SMOCRP or SMOEDF folder

Easy access to established Service Partner network can be found on the STEYR MOTORS homepage:
http://www.steyr-motors.com/network

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